

This listing of claims replaces all prior versions of claims in this Application.

Listing of Claims

Claim 37. (Currently Amended) A layered structure for forming a thin layer capacitor comprising a flexible metal foil formed of a metal selected from the group consisting of copper, zinc, nickel, iron, niobium, molybdenum, titanium, nickel/chromium alloy, iron/nickel/chromium alloy and aluminum, and a desired single phase dielectric material deposited on a surface of the foil, wherein the dielectric material is a layer having a thickness of from about 0.03 to about 2 microns.

Claim 38. (Previously Presented) The layered structure of Claim 37 wherein said dielectric material contains between about 1 wt% and about 100 wt% silica.

Claim 39. (Previously Presented) The layered structure of Claim 37 wherein said metal foil is selected from the group consisting of copper foil, nickel foil and aluminum foil.

Claim 40. (Previously Presented) The layered structure according to Claim 37 further comprising a second metal layer deposited on said dielectric material layer.

Claim 41. (Previously Presented) The layered structure according to Claim 40 wherein said foil is between about 12 and about 110 microns thick.

Claim 42. (Previously Presented) The layered structure according to Claim 37 wherein said dielectric material layer is selected from the group consisting of BST, SrTiO₃, Ta₂O₅, TiO₂, MnO₂, Y₂O₃, SnO₂, and PLZT.

Claim 43. (Previously Presented) The layered structure according to Claim 37 wherein said dielectric material layer is selected from the group consisting of barium titanium oxide, zirconium-doped barium titanium oxide, and tin-doped barium titanium oxide.

Claim 44. (Previously Presented) The layered structure according to Claim 37 wherein said dielectric material layer is selected from the group consisting of WO₃, SrO, mixed tungsten strontium oxides, and BaWO₄.

Claim 45. (Previously Presented) The layered structure according to Claim 37 wherein said dielectric material is an oxide or mixed oxide that contains an element selected from the group consisting of Ti, Ta, Nb, Zr, W, Mo, and Sn.

Claim 46. (Previously Presented) The layered structure in accordance with Claim 37 wherein said metal foil surface has a roughness of at least about $1.1 \text{ cm}^2/\text{cm}^2$.

Claim 47. (Previously Presented) The layered structure in accordance with Claim 37 wherein said dielectric material layer is lossy having an electrical conductivity value of from about 10^{-1} to about 10^{-5} amperes per cm^2 .

Claim 48. (Currently Amended) A layered structure for acting as or forming at least one thin layer capacitor comprising, in sequence, a flexible first metal layer selected from the group consisting of copper, zinc, nickel, iron, niobium, molybdenum, titanium, nickel/chromium alloy, iron/nickel/chromium alloy and aluminum, a desired single phase dielectric material deposited on a surface of the first metal layer and having a thickness of from about 0.03 to about 2 microns and a second metal layer and wherein the dielectric material comprises a cation material different from the metal from which the first metal layer is formed, wherein the first metal layer is a foil having a thickness of about 12 to about 110 microns.

Claim 49. (Previously Presented) The layered structure of Claim 48 wherein said dielectric material contains between about 1 wt% and about 100 wt% silica.

Claim 50. (Canceled)

Claim 51. (Currently Amended) The layered structure of Claim ~~50~~ 48 wherein said metal foil is selected from the group consisting of copper foil, nickel foil and aluminum foil.

Claim 52. (Currently Amended) The layered structure according to Claim 48 wherein ~~said first metal layer is a metal foil and~~ said second metal layer is a metal layer deposited on said dielectric material layer.

Claim 53. (Currently Amended) The layered structure according to Claim 52 wherein said ~~foil is between about 12 and about 110 microns thick and~~ said second metal layer is between about 0.5 and about 3 microns thick.

Claim 54. (Currently Amended) The layered structure according to Claim 48 wherein said first metal layer is ~~a coating between about 0.5 and about 3 microns thick on a polymeric support sheet.~~

Claim 56. (Previously Presented) The layered structure according to Claim 48 wherein said dielectric material layer is selected from the group consisting of BST, SrTiO₃, Ta₂O₅, TiO₂, MnO₂, Y₂O₃, SnO₂, and PLZT.

Claim 57. (Previously Presented) The layered structure according to Claim 48 wherein said dielectric material layer is selected from the group consisting of barium titanium oxide, zirconium-doped barium titanium oxide, and tin-doped barium titanium oxide.

Claim 58. (Previously Presented) The layered structure according to Claim 48 wherein said dielectric material layer is selected from the group consisting of WO₃, SrO, mixed tungsten strontium oxides, and BaWO₄.

Claim 59. (Previously Presented) The layered structure according to Claim 48 wherein said dielectric material is an oxide or mixed oxide that contains an element selected from the group consisting of Ti, Ta, Nb, Zr, W, Mo, and Sn.

Claim 60. (Previously Presented) The layered structure in accordance with Claim 48 wherein said first metal layer surface has a roughness of at least about 1.1 cm²/cm².

Claim 61. (Previously Presented) The layered structure in accordance with Claim 48 wherein said dielectric material layer is lossy having an electrical conductivity value of from about 10⁻¹ to about 10⁻⁵ amperes per cm².

Claim 62. (Currently Amended) A layered structure for forming a thin layer capacitor comprising:

a flexible polymer support sheet,

an un-patterned flexible release-able first metal layer formed on said flexible polymer support sheet, ~~said first metal layer being release-able from said support sheet~~, the metal being selected from the group consisting of copper, zinc, nickel, iron, niobium, molybdenum, titanium, nickel/chromium alloy, iron/nickel/chromium alloy and aluminum,

a single phase dielectric layer deposited on a surface of said un-patterned first metal layer between about 0.03 and about 2 microns thick, and

a second metal layer formed on said flexible polymer support sheet, the metal being selected from the group consisting of copper, zinc, nickel, iron, niobium, molybdenum, titanium,

nickel/chromium alloy, iron/nickel/chromium alloy and aluminum, said second metal layer having an exposed surface.

Claim 63. (Previously Presented) The layered structure of Claim 62 wherein said dielectric material contains between about 1 wt% and about 100 wt% silica.

Claim 64. (Previously Presented) The layered structure according to Claim 62 wherein said dielectric material layer is selected from the group consisting of BST, SrTiO₃, Ta₂O₅, TiO₂, MnO₂, Y₂O₃, SnO₂, and PLZT.

Claim 65. (Previously Presented) The layered structure according to Claim 62 wherein said dielectric material layer is selected from the group consisting of barium titanium oxide, zirconium-doped barium titanium oxide, and tin-doped barium titanium oxide.

Claim 66. (Previously Presented) The layered structure according to Claim 62 wherein said dielectric material layer is selected from the group consisting of WO₃, SrO, mixed tungsten strontium oxides, BaWO₄, CeO₂, and Sr_{1-x}Ba_xWO₄.

Claim 68. (Previously Presented) The layered structure in accordance with Claim 62 wherein said dielectric material layer is lossy having an electrical conductivity value of from about 10⁻¹ to about 10⁻⁵ amperes per cm².

Claim 67. (Previously Presented) The layered structure in accordance with Claim 62 wherein said first metal layer surface has a roughness of at least about 1.1 cm²/cm².

Claim 69. (Previously Presented) The layered structure in accordance with Claim 48 wherein said first metal layer surface has a roughness of at least about 2 cm²/cm².

Claim 70. (Previously Presented) The layered structure in accordance with Claim 37 wherein said metal foil has an exposed surface.